threshold, flexible control can be achieved.

(C) Third Embodiment

Only the difference between this embodiment and the first embodiment will be described hereinafter.

This difference is limited to the fact that the higher threshold (TH) fixed in the first embodiment can be dynamically changed.

(C-1) Structure and operation of the third embodiment

A structure of a principal part of a voice communications system 60 of this embodiment is shown in Fig. 9.

In Fig. 9, the functions of each component and each signal, to which the same reference character as that of Fig. 1 is given, are the same as those of Fig. 1.

Therefore, in Fig. 9, the structure of the voice communications device 62 of this embodiment is different from that of the voice communications device 12 in that the device 62 has a microphone 63, a voice encoder 67, and a dual-talk detector 64, in the internal structure of a fluctuation absorbing buffer device 66.

Further, the voice communications device 61 of this embodiment is different from the voice communications device 11 in that the device 61 has a receiving circuit 65.

The receiving circuit 65 may include the same components as the complementary-packet inserting device 19, the fluctuation absorbing buffer device 66, the voice decoder 17, the packet deleting device 20, and the voice

presence/absence judging device 21 that are included in the voice communications device 62.

Among the components of the voice communications device 62, the microphone 63 corresponds to the microphone 13, and the voice encoder 67 corresponds to the voice encoder 14.

That is, in this embodiment, the higher threshold TH1 is changed by detecting whether the duration of a dual-talk state in which two paths for transmission and for reception simultaneously reach the state of voice presence in the voice communications device 62 is extended or shortened. Therefore, both the voice communications devices 61 and 62 are required to be a transmitting/receiving device, not a communications device only for transmission or only for reception.

As described above, in order to reduce the possibility of the occurrence of exhaustion, the longer the queue is, the better. However, if the queue is too long, the transmission delay becomes substantially long, and this will increase the possibility that, for example, the response to the contents of voices in a bidirectional conversation might be unnaturally delayed. For this reason, the buffer device 66 controls the buffer memory 32 so as to always maintain a fixed amount of packets (i.e., a queue with a fixed length) in cooperation with the complementary-packet inserting device 19 or the packet deleting device 20.

Therefore, in the buffer device 16 of the first

embodiment, the deletion of a voice packet is executed by the use of the control signal C5 supplied from the packet deleting device 20 so as to reduce a queue length when the queue length exceeds the higher threshold TH.

However, to put it another way the deletion is executed when the queue length exceeds the higher threshold TH, a delay at near the higher threshold TH is allowable.

However, it is technically known that the value of the optimum higher threshold TH (i.e., allowable delay) depends on the pattern of conversation in a situation where bidirectional conversation voices are exchanged via the telephone or the like.

This embodiment is carried out while paying attention to this respect, and is characterized in that the value of the higher threshold TH1 that corresponds to the aforementioned higher threshold TH is dynamically changed according to the pattern of conversation.

In the voice communications system 60 of this embodiment that has the structure of Fig. 9, a voice given by a user (speaker) on the side of the voice communications device 61 is output from the speaker 18 in the form of a voice output corresponding to a voice signal DV on the side of the voice communications device 62.

In contrast, a voice given by a user (speaker) on the side of the voice communications device 62 is input to the voice encoder 67 in the form of a voice signal EV, thereafter is contained in the voice packet PI1, and is